

Transport Experience: Industry Perspective

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Safety of Nuclear Technologies:
Transportation of Radioactive Materials – Atomtrance 2006

St Petersburg, Russia
25-29 September 2006

Introduction

Transport is integral to the whole process of matching product to markets. The transport of dangerous goods, such as Class 7 – radioactive materials – must be conducted in a manner to assure safety to life and the environment. It must also be done cost-effectively if society is to reap the full benefits that peaceful applications of the atom bring. No transport, no fuel cycle. No transport, no time urgent deliveries of radioactive materials for medical applications.

The Regulator and the Regulated

There is a synergistic relationship between the regulator whose responsibility it is to ensure that materials are transported safely and securely, and the regulated – that is, those whose job it is to transport the materials in accordance with regulation. One has no meaning in practical terms without the other. Regulation only exists because of the need to transport; transport cannot proceed if it is not done according to safety regulation. Each must take account of the interests and responsibilities of the other.

I believe, on the whole, that there is a positive recognition of this internationally, and certainly from the industry point of view the message I hear is of a generally healthy communication overall between the regulator and the regulated at international and national level.

We make frequent reference to national competent authorities as a kind of short-hand for those in government whose job it is to regulate for Class 7 transport safety. In reality, there are many, beyond nuclear regulatory authorities, who have authority in areas that can impact directly on the ability to transport safely and cost-effectively – for example, security officials, customs officials, and health officials. Perhaps we should be more precise and refer to nuclear regulatory – and other – competent authorities.

It is apparent from industry experiences that I have heard, that sometimes joined-up regulation is not always apparent or easily accessed. For example, a security official at an international border crossing may interpret requirements on the ground in a different way from authorities at the centre. There may be differing interpretations of cleanliness standards for containers. The rationale for where maritime requirements end and inland waterway requirements begin may not be well understood by all.

Certainly there appears to be a fairly widespread view among potential transport service providers that the transport safety and security regulatory regimes are onerous or too complicated. It is the operator who experiences at first hand the differences of interpretation and approach, within and between national jurisdictions. I had a national competent authority say to me once, “You, the industry need to tell us where there are problems of harmonised regulation from one jurisdiction to another, because it is you, the industry that deals with various jurisdictions. But don’t just moan,” he added; “suggest how things can be improved.”

Differences within and between national jurisdictions potentially can jeopardise safety and adversely affect cost-effective transport through confusion, duplication of effort, delays in obtaining approvals, and inefficiencies for both industry and for the authorities. So, then, some suggestions for improvement.

Might it be that designation within national governments of a centralised contact point that can offer advice when Class 7 transport issues arise could go some way to clearing up confusions. This might, for example, be an office designated within the national nuclear regulatory authority that would provide a centralised, first access to customs, security, and so on, depending on the particular issue. This mechanism would prove helpful in the event of an issue where, for example, an operator appeared to be getting mixed or

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different messages from one authority to another. This co-ordinated approach to resolving issues could help ensure consistency of interpretation and application of requirements, and a better understanding of the impact of one set of requirements or another.

I would suggest more regular collective exchanges within countries, between those whose job it is to develop the regulations and standards that have an impact on Class 7 transport, and those whose job it is to operate within the regulations and standards. For example, an annual or semi-annual meeting of officials from a host of departments and agencies, and the various industry sectors who transport, for an exchange of information. This could include the latest transport regulations, security, customs and other requirements and their relationship to each other on the one hand, and a sharing of industry experiences on the other by those operating within the requirements. Such an exchange may go some way to avoiding confusion and encouraging greater appreciation of the rationale for respective requirements.

Stability for Safety

The foundation for the transport safety regulatory regime are of course the transport safety standards of the International Atomic Energy Agency (IAEA). While those standards are reviewed every two years, this does not imply that they should change substantially every two years. The World Nuclear Transport Institute (WNTI), on behalf of its members, has for long espoused the principle, “Change if necessary, but not necessarily change”. We have welcomed recent efforts within the IAEA to streamline the review process and have encouraged the idea that a review should begin with a look back; to a consideration of experiences with the existing regulatory regime. If the existing regime works well, then leave well enough alone. If, however, clarifications are required, problems to be addressed, or if there are opportunities for important safety enhancements, then, of course, they must be addressed. It appears that the new process will provide for a more rigorous filtering of change proposals. We believe they should be subject to a rigorous cost-benefit analysis, with safety, of course, as the first principle.

Harmonised Regulation

Differences of interpretation and approach from one national jurisdiction to another can lead to confusion, duplication of effort, delays in obtaining approvals, and even jeopardise safety. For example, TS-R-1 stipulates that package tests for demonstrating ability to withstand accident conditions of transport should include three different drop tests, in a sequence such that on their completion, the specimen package shall have suffered damage as will lead to the maximum damage in the thermal test which follows. What if one jurisdiction has a different view from another on the most damaging sequence of tests for a particular package design? This

could have significant implications for the applicant in terms of costs and delays.

There is a general appreciation that greater harmonisation would be desirable. Progress is being made; more can be done. Not only greater harmony but also, greater clarity and even, simplicity, in the iteration of the regulations, and their supporting guidance material. Further, their wider public dissemination among existing and potential service providers in straight-forward language would be welcome.

To the extent domestic regulations can actually be a direct reference to international regulations would help. Or, by actually repeating the language of international regulations, harmonisation can be enhanced through greater clarity and thereby, increased understanding.

Industry cannot preach harmonisation without accepting its own share of responsibility. Industry itself benefits to the extent it can surmount competitive pressures, collaborate to resolve different approaches and agree on industry criteria for such key issues as packaging, packing and handling procedures. This is one of the key functions of the WNTI; to encourage the development of industry-wide standards, and consolidated positions based on sound research, and situating issues in their widest engineering, economic and political context.

Sustaining Shipments

A worrisome trend for global supply is that some shipping companies, air carriers, and ports have instituted policies of not accepting radioactive materials. Many things can affect the willingness of carriers to accept Class 7 consignments – maybe the potential service providers are unsure about insurance implications. Perhaps they worry about the perception of other customers whose goods they want to carry. Maybe they think special handling procedures or reporting requirements are too complicated, or too onerous. Perhaps they are put off by problems with ports, or terminals, which themselves are not prepared to accept Class 7 cargoes or raise seemingly complex issues. In short, the decisions taken by shipping companies are based on maximising profit. If the return from carrying Class 7 materials does not seem substantial enough, then, why bother?

Experience in some regions has shown that service availability, and acceptance levels, have rapidly declined in recent years. Consignors increasingly confront departure, transit, trans-shipment, and discharge port limitations or restrictions. It is difficult sometimes to get a clear understanding, and therefore, consistent interpretation of the regulations within and between jurisdictions. Shipping companies fear that the carriage of Class 7 cargo will result in unexpected delays with port clearance processes or, at worst, refusal to dock. And, in some instances, this is becoming a reality.

Producer shippers accordingly are denied options for competitive choice of services. Shippers too often are met by a lack of standardisation in documentation. And, of

course, worst of all, is when shipping lines deny, or withdraw from services. This situation inevitably drives consignors to consider charter options; but this is not a panacea. Charters can mean reduced shipping schedules and a lack of delivery flexibility. This in turn results in increased overall inventory holdings, and increased total shipping and other related business costs. And of course, use of slower, smaller charter vessels increases the potential risk of security breaches by diverting cargoes away from mainstream access terminals to small ports or terminals, and the potential for piracy.

It's not all bad news. There still are carriers on some routes prepared to accept Class 7 consignments. But, if denials and delays of shipments are to be overcome, then industry must work with other stakeholders, including national competent authorities, to demystify the apparently mystifying or fearsome image of Class 7 materials.

Responses to the Denial and Delay Problem

The shipment denial and delay issue has become serious enough to show up on the international radar screen. The International Atomic Energy Agency (IAEA) is addressing the issue; so too is the International Maritime Organization (IMO). It is not an issue specific to select sectors of radioactive materials transport; the hazards associated with the transport of such materials are related to the properties of the consignment, and not to its end use. Yes, certain materials for medical application are time urgent, but it would be well nigh impossible to distinguish clearly between consignments intended for medical applications and those for other applications. Healthcare and other activities are interdependent; fuel for nuclear power plants produces electricity for hospitals; Cobalt-60 sterilises medical instruments and also is used to sterilise certain food products.

Within the World Nuclear Transport Institute we constituted a Sustaining Shipments Industry Task Force to address the subject in a pro-active and positive way. First, and importantly, we have sought on behalf of our industry members to support international efforts to address the issues of denial and delay. We have initiated exchanges with port authorities in a number of countries. We meet with the insurance industry, maritime authorities and liner services.

One of the initiatives we are pursuing is the development of what we call an Industry Knowledge Base, to assist WNTI member companies in their dealings with potential or existing transport service providers. The Knowledge Base will include straight-forward, plain-speaking, factual information on such subject areas as insurance requirements, the international nuclear liability regime as it applies to transport, the physical properties and packaging characteristics of Class 7 materials, radiation protection requirements, information regarding segregation distances on carriers, and so on. We want, for example, to give information and assurance to potential service providers to allay any potential concerns. We also are

exploring development of information and training course modules that we will make available to our industry members to support their dealings with service providers.

Security

The current security environment of course has had an impact on the manner in which nuclear materials are moved within, and between, countries. Seaports, rail yards, airports – all have adopted increased security to guard against unauthorised access to radioactive materials. For example, ocean ports have significantly reduced the amount of time that radioactive material may be held at terminals prior to loading or after unloading and yet, the latter often is a function of waiting for customs clearance before freight can be removed from the port premises. Material in transit now frequently has to be moved to specially guarded, secure facilities, where the total length of time between unloading and reloading is also limited.

Rising security concerns also have an impact on the risk assessments carried out by insurance companies providing coverage for both vessels and cargo. Owners of the materials are concerned about the 'perceptions of risk' attached to the movements of their materials, because it affects not only premiums, but the potential for delays as a result of increasing restrictions imposed by ports, Coast Guard or inland transport authorities. Security related communication between all parties involved in shipment of radioactive materials is essential to ensure that current warnings are received in a timely manner for assessment, and incorporation into transport plans, and to ensure a prompt response from qualified entities in the event of an incident.

Public perceptions

It would be remiss not to mention public perceptions of transport, because public perceptions have an important impact on the acceptability of transport options, and on the ability of industry to deliver its materials in a cost-effective and timely manner. An ever more internationalised nuclear industry, with increased transports to more destinations, greater attention to the growing requirements for decommissioning, and the pursuit of long-term storage solutions, all in an age of heightened security concerns, and a very public debate on energy choices for the future, make the public more sensitive to the role of the nuclear industry and the transport of radioactive materials. It's not just a matter of perceptions of radioactive transport. An incident in any sector of the nuclear industry can and does have an impact on all other sectors.

Industry has made giant strides and is doing a much better job today of communicating than it did in past decades. But communication is a process rather than an end – it must continue without let-up; we must be innovative in conveying our messages of necessary and safe transport to contemporary society. Ours is a generation more

environmentally aware than ever before; a generation more sensitive to the perils to our ecosystem. It is a generation also seemingly sceptical of all-knowing authority from above and, perhaps, a generation not over impressed by the technocrat. People talk in terms of values; they have attitudes, intuition and feelings seem to count as much as facts. So it is at this level that industry must reach out to its audiences. It must be prepared to acknowledge when and why things sometimes go wrong; it must be prepared to answer sometimes awkward questions of public concern. Science, engineering, must be situated in its political and social context if it is to be supported. Ultimately it is an issue of trust – how far can the public trust the industry to provide reliable, objective and the fullest possible knowledge. Facts yes – but more is needed.

Summary

There is a widespread recognition today that maintaining transport options in the interest of bringing the benefits of radioactive materials to where they are wanted the world over requires open and sustained dialogue between the regulator and the regulated. This is improving. It also requires close collaboration among all parties in the industry – this is increasing.

Industry must take the opportunities afforded it to inform the regulators and others of the context in which industry performs its essential services, and to be engaged in the regulation review and implementation processes. Practical, efficient and safe transport regulations should take full account of their impact on those who do the transporting. But industry does itself no favours if it is seen only moaning or complaining; it should offer support and encouragement to the other stakeholders and work together to propose solutions where improvements are called for.

There is a powerful message to be told here – radioactive materials transport plays a vital role in bringing the peaceful uses of the atom to the benefit of society. The nuclear transport industry operates within a highly stringent international transport safety regulatory regime; a regime subject to regular review to ensure safety. The transport of radioactive materials has an outstanding safety record over several decades. The nuclear transport industry takes its responsibilities seriously. The industry has come together, through the World Nuclear Transport Institute, to collaborate to ensure that it continues to meet its commitments to safety and to take a positive and inclusive approach to the important issues before it.

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